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ABSTRACT

This paper analyzes approaches to facilitating school-university transition in South Africa and explores the theories underlying this process. A review of the literature and a case study of the process at the University of Port Elizabeth (UPE) show what is happening to the school-university transition at the end of apartheid. UPE has taken a broadly based approach to facilitating this transition, focusing its efforts on what can be achieved on campus in preference to extending its limited resources to the school context. There is a privately sponsored Saturday morning program designed to prepare disadvantaged students for the university. Several modules have been developed to help students adjust to the university, notably "English for Academic Purposes" modules for those for whom English is a first or second language. Students in South Africa clearly need support in their transition from school to the university, but most support is given on campus shortly before and just after initial registration, with little effort made, for financial and capacity reasons, to prepare students before they reach the university. There is little chance that the selection of the secondary school system described as disadvantaged will emerge from its difficulties in the next few years. This suggests that institutions of higher education will need to provide the best possible context for incoming students. (Contains 65 references.) (SLD)

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ISSUES IN SCHOOL TO COLLEGE TRANSITION IN DEVELOPING COUNTRIES: THE CASE OF SOUTH AFRICA

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ABSTRACT

The paper contributes to a symposium comprising contributions from Darrel Lewis and David Chapman of the University of Minnesota, and the author. The symposium examines issues in student flow from secondary to higher education in the developing world. In many developing countries there is a significant gap between the knowledge base needed to complete secondary education and the knowledge base needed for admission to higher education. This misalignment often has enormous financial and human resource implications. Lewis provides examples from Turkey, Uruguay and Costa Rica, and Chapman presents data from Suriname and Laos.

With the breakdown of apartheid, universities that were previously reserved for 'groups' designated by 'racial classification' were opened to all. A serious challenge now facing historically privileged ('white') universities is that increasing numbers of applicants have come through historically disadvantaged schools. These students may have been deprived of learning resources, such as study facilities, libraries, textbooks, and in some cases qualified teachers. Consequently they are not prepared for higher education. While universities have developed programs that facilitate physical, cultural and academic access, these are often too superficial to offset students' educational disadvantages. This puts both students and programs under great pressure. In addition, few teachers in higher education are equipped to deal with the range and depth of personal, systemic and academic challenges. This presentation discusses the challenges of rapidly opening access in South African universities, how universities are responding, and how responses are likely to evolve in the next decade.

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1. Introduction

This paper analyses approaches to facilitating school-university transition in South Africa, and the most influential theories underpinning the process. Based on the literature and one institutional case study that exemplifies the main trends, the paper attempts to contextualise, identify and explain existing approaches, and to anticipate

future developments. Although at a superficial level the topic of the paper may seem relatively circumscribed, any analysis of access to higher education in South Africa must take into account historical influences, as well as the state project of democratization. It should also recognize that although there may be improvements in certain sectors and processes, there might be deteriorations in others.

After six years of attempting to create a more rational and equitable educational dispensation, the school system of post-apartheid South Africa continues to suffer from the catastrophic effects of racial segregation. The Report of the President's Education Initiative Research Project, *Getting Learning Right* (Taylor 1999), which summarized the findings of some 35 independent studies of over 250 schools across a broad spectrum of the South African schooling system, painted a bleak picture. 90% of the schools studied serve communities disadvantaged by apartheid.

The country's universities have long experienced a steady decline in the preparedness of newly registered students. However, universities have been almost powerless to address the problem directly. From a developmental perspective, it has been impossible for the universities to contribute to school programs because of deep and rigid systemic divisions between secondary schools and institutions of higher education. Best attempts at bridging the gulf between schools and universities have been those of non-governmental (not-for-profit) organizations, which have offered summer/ winter-schools and weekend workshops for students in their final stage of schooling.

As students from the "Bantu Education" school system began to find their way into "white" universities in the 1970s, the earliest response of universities was to create *academic support units*, which provided students with guidance in English and study-skills. Resourced by soft (private) funding, these units were most successful when working in close partnerships with the mainstream. However, such partnerships were difficult to establish and maintain, and teaching staff tended to view the units as remedial, referring under-prepared students to them for help. Not surprisingly, students developed negative attitudes towards them, and though in principle they were in favor of the support, they tended to avoid them.

A similarly superficial and (for under-prepared students) often unpopular strategy is to slow-track students with low school grades by registering them for an "extended curriculum". Students take three subjects at a time over four years, instead of the traditional four over three years. In addition, they are usually obliged, as a condition of admission to the program, to attend extra modules in English for academic purposes and university preparedness in their first year. Few formal evaluations of slow tracking have been published in South Africa, although there are several accounts of foundation programs that use it. (Grayson 1994, Webbstock 1995, Jack 1996, also see below: Warren 1998) The author's university views the strategy skeptically with regard to disadvantaged students who have low school grades, because an insignificant number of these students persist beyond the second year of their degree.

In the 1980s the country gradually succumbed to widespread civil chaos, centered in the African schools. Fewer of these students were able to complete schooling, and the few who did were often unable to address the demands of university study. Increasingly it became evident that universities should focus less on student under-preparedness, and more on preparing their staff to meet the needs of students. (Ferreira 1995, Manamela 1997) There was a general shift in universities away from "academic support" to "academic development". (Warren 1998) The essence of academic development was to develop the mainstream curriculum as broadly as possible: improved curriculum planning, relevance, delivery and assessment. Academic development personnel began to work less with students and more with staff. In this way, interventions moved away from marginalized programs structured around study skills and writing tutorials (often seen as a "deficit model"), towards teaching development.

The state funding system supported this trend, placing the onus for preparing students for university on schools, and ignoring the fact that the majority of schools were unable to do this because of the increasingly chaotic political situation (focused on the disruption formal schooling) and their under-resourced systems. A major report on the state subsidization of higher education argued as follows:

> "... one would, in general, expect that, if poor schooling gives rise to learning difficulties at university, remedial action at the school level is called for. Although increasing university subsidies may be advantageous to those who have survived alleged deprivation at school, it achieves nothing for those who, albeit innately capable, did not do so. Therefore, although the need for remedial instruction is acknowledged, it is argued that such teaching should be received by a student prior to his entering a university. If universities wish to provide instruction at a pre-university level, subsidization should be provided by the government via channels other than the university formula. In so doing, the distinction between secondary and university education will be maintained. In as far as preparatory / remedial instruction is provided by universities, in the sense that students enroll for a drastically diminished number of subjects, thereby allowing themselves time to become accustomed to university academic requirements, subsidies will be provided via the formula." (SAPSE 110, 1985: 17)

The cynical logic of the report was captured in the final words of the above quotation, which meant that universities would receive exactly the same state subsidy for disadvantaged students whom they admitted as for any other student. The report went on to specify that no state subsidy would be paid for modules designed to meet students at their own level if that level was below the level required at university: "The prerequisite for subsidization via the government's university programme is, however, that the subjects so taken should contribute towards a student's formal degree or diploma and should, therefore, be at least on a level higher than standard 10 (the school leaving certificate)."(SAPSE 110: 17) This implied that any money that a university wanted to spend on developing disadvantaged students (beyond the cost of mainstream programs) would have to be deducted from the fees and subsidies of other students. Although institutions did channel large amounts from their budgets to establish academic development/ support and foundation programs, the funding formula ensured that

university staff and students perceived such programs as "millstones" rather than legitimate redress.

A recent report found that strategies used by universities to redress past discrimination and ensure representivity and equal access to higher education fell into four categories. Firstly, some institutions view access as "gatekeeping", and use entrance testing to place students into appropriate programs. Secondly, there are those who consider access to be "redress", creating alternative routes of preparation. A third group sees access as "institutional survival", developing flexible modes of delivery to improve their "accessibility", and enabling people who live far from universities to study at a distance. Fourthly, some treat access as part of "quality assurance", focusing on the reconfiguration of curricula to meet students' needs by introducing educational development modules into their undergraduate programs. (Griesel 1999:16-18) The report concluded that no one strategy could provide a solution: "... in terms of specific access mechanisms, it would be spurious to judge one route as better serving the goals and needs of the higher education sector than the other. While a pervasive response (including that of international experts) is often that testing, or a national entrance examination, will ameliorate the problem of access, this presents a limited view of what access needs to entail – testing is best at capturing that which has already been achieved, and in the South African context it is clear that we need to achieve more than this."(Griesel 1999:19)

The strategy of employing entrance tests to select applicants for further study has been avoided by most universities because it may harm efforts aimed at increasing access to higher education for previously excluded "groups". (Huysamen 1997, 1999) For example, a study of students enrolled in the University of the Witwatersrand pre-university bridging year found that the academic success of disadvantaged students was considerably less predictable than that of advantaged students. (Skuy *et al* 1996) Subsequently, selection testing has been reconceived as identifying students with appropriate learning potential. The University of Natal, for example, developed a "teach-test-teach" (developmental) program that aimed to identify students who were good learners. (Griesel 1992) By contrast, the University of Cape Town mounted a countrywide entrance test that is more successful than the Matriculation examination in identifying students who will succeed at university. 75% of those admitted on the basis of the test have graduated. (Griesel 1999:59-61) The test recognizes the link between selection procedures and prior educational development.(Yeld and Hartman 1992) These approaches implicitly criticize the validity of the content-based school leaving examination, which is seen to encourage uncritical rote learning. The results of the tests are not used to exclude students with acceptable school grades. They rather provide grounds for admitting students with low grades, but who seem to have the ability to perform better.

A change in the pre-test strategy has been to use it as a means of "placement" into appropriate programs, rather than merely for "selection". (Yeld and Hartman 1992) This change became ubiquitous in the 1990s, because universities increasingly believed they did not have the resources or the time to raise students who had matriculated from disadvantaged schools to levels of literacy and numeracy necessary for them to cope with

higher education programs. Instead, they offered students places in programs where they were thought to have a chance of success.

The pre-test approach may also come into conflict with government initiatives to develop a common, equitable school-leaving certificate, which will provide right-of-access to public institutions of further and higher education.

The notion of placement has created pressure for universities to provide appropriate programs for under-prepared students, so that, coupled with placement tests, some universities have developed one-year foundation programs, intended to supplement the university entrance certificate ("matriculation") by developing students' academic literacy, numeracy, career-preparedness and "life-skills". (Jack 1996, Webbstock 1995) These programs earn no state funding, but are considered important for the sake of equity of access (redress), especially for preparing disadvantaged students who are interested in registering for under-graduate studies in commerce, mathematics and science, where they are under-represented. Researchers are currently monitoring whether, and under what conditions, these programs enable students to persist to graduation in the mainstream. One case study of a foundation program (Griesel 1999:48) gave its "throughput rate" as the proportion of students who proceeded to register at university after having completed the foundation year. However, this is clearly inadequate, because what is of interest is the proportion of these students that succeeds in completing a degree or diploma.

2. The State School System

In order to identify the challenges facing school to university transition in South Africa, it is necessary to begin with a situation analysis of the schools in which the majority of students are prepared for higher education. Not only will this indicate what is meant in South Africa by the terms "unprepared for university" and "disadvantaged schools", but it will clarify the challenges with which university teachers must contend.

For educationists familiar with conditions in South African schools, the findings of the President's Education Initiative Research Project did not come altogether as a shock. It confirmed anecdotal evidence that there was widespread and profound breakdown in the school system, despite efforts by the state to redirect funding away from historically privileged institutions to underdeveloped regions, and to primary education in particular. However, what attracted attention was the formal recognition that conditions were pervasive throughout the country. This is not to say that every school is affected; even among the most severely disadvantaged schools, there are examples of excellent management and practice.

South Africa is sometimes touted as the "engine" of African economic development. However, it can be thought wealthy only relative to the desperate poverty of other African countries. With more than 25% unemployment, 45% of the population of 43 million living below the poverty datum line, and a small tax base, South Africa is poor by "first world" standards, and probably becoming poorer. Thirty nine thousand jobs were lost in the formal sector in the third quarter of this year (*Business Day*, 1 Sept. 2000), bringing the total for the year to 190 000. A recent report on inequality revealed that,

"57.2% of blacks are living in grinding poverty, while only 2.1% of whites live under the same conditions. The poorest 40% remain black, women and rural". (*Eastern Province Herald*, 10 Oct. 2000) The state can therefore offer only limited support for the development of educational resources, the vast majority of its 32000 schools being historically disadvantaged, especially in the face of high expectations and competing demands for social development in all sectors of society.

The President's Initiative analyzed four main areas of schooling:

- The systemic and institutional context of teaching and learning;
- Curriculum, pedagogy and assessment;
- Teaching and learning materials;
- Language policy and the use of language for teaching and learning.

It concluded that "some provincial systems fall into the category described ... as being reconciled to gross inefficiency, maladministration and chaos", with "very low levels of productivity amongst teachers and other education officials". (Taylor 1999:4) One survey of school principals found that over a period spanning 191 possible tuition days, 170 were lost through registration (9 days), slow starts to subsequent terms (11), examination preparation (9), writing (22) and marking (36), union meetings (10), strikes (7), paydays (10), memorial services (12), athletics (8) and music (8) competitions, district and regional meetings (5), and other causes.

While recognizing that the new democratic government was busy developing "an impressive legislative framework for the comprehensive reform of schooling" and had succeeded in restructuring the administration of schooling at the highest levels, the Report pointed out that without information about learning outcomes, there was no basis for strengthening management, constructing learning programs, developing teachers, or measuring progress. Therefore, in addition to the school certificate at grade 12, which marks the completion of formal schooling, it proposed that systemic assessments be instituted at grades 3, 6 and 9. (The state's goal is that, in time, grade 9 will become the end of "compulsory schooling".) On the basis of findings about learning outcomes, researchers would need to "investigate the links between successful learning, different models of school improvement, and particular elements of classroom practice."

Addressing curriculum, pedagogy and assessment, the Report found "significant contradictions between what individual teachers said about how they think children learn, and the classroom practices of those same teachers". (Taylor 1999:5) While teachers emphasized the value of learner-centered pedagogy, including discovery, building on prior knowledge and working in groups, there was no evidence that they implemented these principles. Teachers had low expectations of the abilities of their pupils and rarely used "real world examples". Most questions posed by teachers merely elicited information recall, and often required no more than a single word answer. Teachers rarely corrected wrong answers, nor did they use them to develop conceptual understanding. Pupils did "hardly any" reading, and there were few books. They wrote single word answers to questions and were required to write few sentences and no extended passages. At all levels, the standard of knowledge and skills fell far short of

what was required. The report proposed that developments of pedagogy would have "little purchase if they were not built on solid conceptual foundations". Therefore, teachers needed to develop their conceptual foundations, but they also needed "sets of assessment items" that would serve as exemplars and help to benchmark standards at the different grade levels.

The lack of teaching and learning materials was the aftermath of a "budgetary crisis" in 1997/8, when almost the whole budget was spent on salaries, including poorly managed pay increases and a generous retrenchment policy. The result was that, even if textbooks were available, few teachers used them systematically. Many claimed the textbooks were outdated, inappropriate, and beyond the reading ability of pupils. Where teachers developed their own materials (worksheets, resources, etc.) they were not used systematically to develop higher order skills, but merely provided "ad hoc activities". The Report called for proper control of the budget to ensure the stable provision of resources, and a campaign to restore teachers' faith in the value of the textbook as "a systematic exploration of the subject material within a holistic conceptual framework". Teachers needed to learn to integrate textbooks into their teaching strategies, and to teach pupils to study independently from textbooks.

On the question of language medium of instruction, the report found that few parents and schools opted for the policy of "additive bilingualism", the advantages of which are supported by research and recommended in national policy. Instead, they preferred a "straight-for-English approach": "... parents see English as the means to gaining access to mainstream national and global society." In addition, it was often not possible to settle on a single first or second language because most urban schools were linguistically heterogeneous, few children had a single mother tongue, and there was a "mismatch in language competencies of pupils and teachers". (Taylor 1999:8) The Report recommended that because English was the overwhelming choice as a medium of instruction, it should be a "central feature" of teacher training programs. Such programs should also include another major language of the region as a "compulsory component". In the short-term the Report recommended that teacher assistants be employed who spoke the language of the pupils. Also, bridging classes and reading material (story books, textbooks, etc.) in the language of instruction should be provided.

The Report concluded pragmatically, that the quest for transformation needed to strike the "right balance in four areas: between authoritative and the devolution of management practices, between operating and staff costs, between prescriptive and constructivist curriculum and assessment activities, and between market and multi-cultural considerations in language usage".

3. The University System

For South Africa, democracy came at a high price, though certainly not as high as it could have been had the African National Congress (ANC) not taken the route of reconciliation and redress. Many, if not all the causes for the collapse of the school system outlined above can be traced to the apartheid system of education, and the intensely destructive "struggle" that was waged for nearly two decades (1976-1994) to destroy the apartheid

school system. The slogan was "Freedom now, education later". However, those who destroyed their schools are now called "the lost generation".

Educationists came into the new era fully cognizant of the enormity of challenges that democracy would bring. They anticipated the need for an inclusive system, and for the need to equalize the system. In 1987, the pupil-teacher ratio for African schools stood at 41:1, while in "white" schools it was 16:1. 87% of teachers in African schools were underqualified, whereas only 2% of "white" teachers were in this position. Annual per capita expenditure by the state on African school children amounted to R477 (approximately US$70) whereas for "white" children it was R2508 (approximately US$350). The school leaving pass rate (for those who wrote the exam) was 56% for Africans and 94% for "whites". Only 2.6 Africans per thousand head of population were attending university, while there were 31.1 whites per thousand, this with an African:white population ratio of approximately 16:1.

> Today African education suffers from severe quantitative and qualitative problems. Many of these center on the poor supply, lack of training and low morale of the teaching corps. Decades of segregation, ideological neglect and rising student numbers have resulted in huge backlogs of provision and gross inequalities between the white and black systems. Despite considerable improvements in recent years – increased financing, expanded provision, lower pupil-teacher ratios and higher teacher qualifications – the quality of African education has been declining. The trend will be difficult to reverse, particularly as powerful socio-economic forces place heavy demands on the schooling systems. While the extent of material deprivation in African education is considerable, some of the most negative effects of the crisis are found in intangible areas – in a loss of self-respect. Tolerance, teachers' morale and students' will to learn." (Hofmeyr and Spence 1989:38-39)

The first stage of government intervention to democratize South African higher education was the work of a National Commission on Higher Education. The Report (1996) proposed the development of a single, coherent national framework from the racially fragmented sector of 21 universities, 15 technikons (technical universities) and numerous colleges. It also attempted to create ways to broaden access for people hitherto excluded from the system; to regulate and ensure efficiency in terms of student throughput rates; and to increase institutional capacity to respond to social demands for massification and the increasing diversity of students. It included sections on the need for a new policy framework, the apartheid legacy, South Africa in transition, the vision, principles, goals and features of the commission, and a proposal for a single, coordinated higher education system with cooperative governance, goal-oriented funding, and a transformation strategy. Interestingly for this paper, even in respect of cooperative governance, the Commission completely overlooked the importance of the schooling sector. Of more than 200 members of task groups, not one was from a school, and no mention was made of the important role that universities could play in the development of the school sector.

Except for acknowledging the need for "the new funding framework to recognize the articulation gap between the school leaving level of most school leavers and the

educational expectations of most higher education programmes" (NCHE 1996:136), schooling was not mentioned. Instead, the report endorsed a "reconceptualization of parameters and structures of first degree and diploma programmes", and the development of an "extended curriculum" (slow tracking). Recommendations on developing the quality of teaching and learning in higher education focused on "human resource development" and integrating "academic development" into mainstream programs. (NCHE 1996:144) This says much about the optimism that surrounded the development of a new curriculum for all South African schools (the "Curriculum 2005" project) and the belief in benefits that "outcomes based education" would bring to the school system.

Students from disadvantaged schools now comprise more than half of the annual intake of students in "historically advantaged" (white) universities, and almost the entire intake in "historically disadvantaged" universities. In 1998, Africans comprised 52% of a total of 351786 students who attended South African universities, and 65% of a total of 127193 students who attended technikons. (Griesel 1999:8) A large majority of these students graduated from disadvantaged schools. They may have never used a library to write a research project, and most are firmly schooled into the belief that the trick of "surviving" education lies in memorizing and reproducing what the teacher gives them. The notion of alienation is apposite: youngsters who are quite capable of independent, rational and critical thought in their private lives separate this self from the "self" who has to cope with the seemingly alien school system.

Language is clearly one of the issues at the heart of the crisis. Despite the President's Report finding of the prevalence of English as the chosen language of instruction, in practice, students whose mother tongue is an African language switch away from English as soon as they leave the formal learning context. Therefore, their experience of learning formal academic English is very different than if they were immersed in an English context. Rather than culturally integrating English as their second language, many view it instrumentally, as if it were a foreign language. This may be formally conceptualized using Cummins' (1984) distinction between cognitive-academic language proficiency (CALP) and basic interpersonal communicative skills (BICS). For Cummins, CALP is cognitively demanding but context reduced, whereas BICS is cognitively undemanding and context embedded. For Cummins, transfer of proficiency from one language to another depends on motivation. If this is so, it helps to explain why students are able to develop English BICS quite successfully (transferring proficiency from the mother tongue to English), but not CALP (for which mother tongue proficiency has not been developed). What immersion seems to achieve is a relatively rapid acquisition and integration of BICS and CALP in the second/third language because of high levels of motivation and input. (Krashen 1981)

The result is that, despite at least ten years of formal study of English in school, including having English as medium of instruction (at least nominally), students from historically disadvantaged schools tend not to have acquired a sound basis for English CALP. They depend heavily on the use of structural patterns (terminology, phrases and clauses), just as foreign language speakers manipulate their limited resources when endeavoring to express their communicative intentions. As one researcher reported, "students say that

they have to read texts several times before understanding them; they don't know when they are reading or extracting relevant materials. Lack of specific language skills to cope with the complexity of texts and academic jargon is also associated with lack of confidence and misunderstanding". (Agar 1990:450) Similarly, students' numerical problem solving skills are often far below the minimum standard necessary for university, and coupled with this, their background and disciplinary knowledge provides a weak and inadequate foundation for higher education. (Kaunda and Ball 1999)

Many examples exist of the four categories of access strategies identified by Griesel (1999:16-18, see section 1) as gatekeeping, redress, institutional survival and quality assurance. Three examples of redress (alternative routes to pre-university preparation) are as follows: firstly, a school to university transition program, which aims to prepare school pupils for undergraduate business programs of universities in Port Elizabeth, provides pupils with activities to develop study skills, but also develops basic knowledge about, for example, cheque books, savings accounts, interest rates and the stock exchange, of which they would otherwise be unaware. (Weir 2000) This program has found that its students are able to learn more confidently and interactively when they reach university.

Secondly, a one-year pre-university program at the University of the Witwatersrand has reported success. The program for commerce students from disadvantaged schools reported that its students took significantly less time on average to graduate than mainstream students, even including their preparatory year. (De Villiers and Rwigema 1998) This program broke the mould of students' previous educational experience by varying teaching and learning strategies, including small group tutorials, simulations, fieldwork, field visits and a period of six weeks spent at a firm under the guidance of a mentor. The curriculum was broad: law, mathematics, statistics, accountancy, economics, business economics and English language skills.

An analysis of the transition from "academic support" to "academic development" at the University of Cape Town (UCT) found that two forms of programs have replaced add-on remedial support: first, credit-bearing, separate or semi-integrated academic literacy courses and tutorial programs; and second, courses that integrate the development of academic skills with the learning of a discipline. (Warren 1998) Two principles governed the UCT programs. First, "academic practice requires higher order thinking, interpretive and writing skills and familiarity with the concepts, theories and ground rules of specific disciplines or fields", and second, "many students are still developing the cognitive, linguistic or conceptual resources and background knowledge required for academic study, so that learning will need to be mediated". (Warren 1998:76-77) Various models of intervention were tried: supplementary tutorial programs, separate language-based courses (English for Academic Purposes), separate "introductory" courses in disciplines, extended first-year courses in disciplines, foundation programs, adjunct language-based programs (linked to a credit-bearing course in a discipline), mainstream courses based on principles of academic development (well designed, and integrating activities and resources), and core entry-level curricula (multi-disciplinary, providing an introductory

semester to prepare students for choosing their under-graduate programs). (Warren 1998:78-82)

The trend towards integrating language and study skills with disciplinary knowledge to develop meaningful competencies supports the project of the South African Qualifications Authority (SAQA), whose mission is to develop a National Qualifications Framework (NQF) based on learning outcomes. The goals of the NQF were to improve access, quality assurance, progression and articulation (similar to the European credit transfer system).

SAQA has six basic criteria for accrediting qualifications: They must :

- represent a planned combination of learning outcomes, with a defined purpose intended to provide applied competence and a basis for further learning;
- add significant value to the learner in terms of status, recognition, credentials, licensing, marketability and employability;
- provide benefits to society and the economy through enhancing citizenship, increasing social and economic productivity, providing skilled people, and transforming and redressing legacies of inequity;
- enhance learner access, mobility and progression with quality education and training;
- have both specific and critical cross-field outcomes which promote life-long learning; and
- be internationally comparable, where applicable.
(*Government Gazette*, 9 May 1997, 48-49)

The seven prescribed "critical cross-field outcomes" of every program (appropriately contextualized) comprise: effective communication, problem solving, information processing, the ability to work with others as a member of a team, self organization, effective and critical use of technology, and systemic understanding. In addition, five qualities ("supportive outcomes") are identified: reflective learning, citizenship, cultural and aesthetic sensitivity, exploration of educational and career opportunities, and entrepreneurship. (*Government Gazette*, 9 May 1997, 47-48, Gevers *et al* 1999:18) Development of these competencies and qualities depends on integrating them into teaching, learning and assessment activities and resources to ensure their transfer to program outcomes.

Broadly speaking, responses of higher education to the need to bridge students from disadvantaged schools into universities are therefore introverted. Few university projects focus on intervening at school level to facilitate the transition. Perhaps the most important reason for this is the deep systemic division between schools and universities created under the control paradigm of the apartheid dispensation, and perpetuated with the new government's efforts to control the democratization of schools. The Ministry of Education has been occupied with the opportunity for creating a "grand plan" that would rid the country of the effects of apartheid. To achieve this, power was shifted to ANC personnel who were responsible for re-educating the teaching profession in the new principles. An outcomes-based vision for renewal, called "Curriculum 2005", was

developed, incorporating ideas from the United States, Canada, Britain, Australia and New Zealand.

The new curriculum created widespread confusion among teachers, especially those (the vast majority) in disadvantaged State schools. The State Department of Education had massively underestimated the challenge of eliminating a content-based approach to education and replacing it with a competency paradigm. The rationale, conceptual developments, learner-centered technologies and teaching-learning resources proved to be beyond the ability of the average teacher to implement in practice. Consequently, while historically advantaged schools accepted the innovations with comparative ease, disadvantaged schools fell into even deeper confusion. Their teachers were doubly demoralized because of expectations raised by over-optimistic political claims for the new dispensation.

4. Theoretical Trends in Student Development

From the United States, the theories of Tinto (1975, 1985, 1987) and Chickering (1974) have influenced the ways in which South African universities are responding to the needs of students. Two research reports on student needs from the University of Port Elizabeth have been based on their work. (Koch 1994, Van Lingen 1996) One of the weaknesses of both models is that they focus on students already at university, rather than across the school-university divide. However, research that attempted to evaluate Tinto's model has found strong evidence to support this focus: "Background characteristics, or the characteristics with which students enter institutions of higher education, were repeatedly found to contribute only minimally and/or indirectly to student adjustment (Fox 1986; Pascarella and Chapman 1983; Pascarella and Terrenzini 1979, 1983; Terenzini and Pascarella 1980)." (Van Lingen 1996:40-41)

Tinto's and Chickering's models are complementary, in that Tinto's is a "college impact model" while Chickering's is "developmental" or psychosocial. (Pascarella and Terenzini 1991) Both models are phenomenological, in that they recognize firstly, the importance of the student's subjective experience and perceptions, and secondly, the interaction between the student and the institution. (Van Lingen 1996:32) Tinto did not see the process of dropping out as being merely the result of a deficit in the student, but rather the product of both the student's behavior and the impact of the institution. (Tinto 1987, Van Lingen 1996:37)

Basing his theory on the work of the anthropologist, Van Gennep, who was interested in individuals who change membership from one group to another, Tinto divided the student's adjustment to university into three phases: separation, transition and incorporation. (Van Lingen 1996:33) Tinto also drew on the work of Spady (1970, 1971), who used Durkheims' theory of suicide to describe the process of integrating with a community. Durkheim distinguished two types of integration, social (personal affiliations and interactions) and intellectual (sharing of values), arguing that both were important for group membership, although one could compensate for the other. (Van Lingen 1996: 36)

Factors influencing students' adjustment in Tinto's model are: individual characteristics; institutional characteristics; and external factors such as family circumstances and work. The process of adjustment is sequential:

- Students' pre-entry attributes (family, skills, abilities, and schooling) impact on
- Students' development of goals and commitment (intentions, goal and institutional commitment, external commitments), which influence
- Students' institutional experiences (the academic system and the social system), which influence
- Students' personal, normative integration (academic and social), which influence
- The quality of the students' efforts, which influence
- Students' educational outcomes (learning), which influence
- Students' new goals and commitments (intentions, goal and institutional commitment, external commitments), which influence
- Students' persistence/dropout. (Tinto 1997)

Pascarella and Terenzini (1979, 1983) found that social integration was more important for female students and academic integration more important for males. Pascarella and Chapman (1983) found that social integration was more important at residential institutions, whereas academic integration took priority at commuting institutions. Fox (1986) found that disadvantaged students tend to view academic integration as more important than social integration. Eddins (1982) found that "on-campus academic behaviour" had the most significant relationship to student attrition. This behaviour included the following factors: adequate and timely completion of homework; regular class attendance; asking questions in class; and putting forth maximum effort for academic success. (Van Lingen 1996:40-42)

While Tinto's model has been empirically validated, Chickering's is considered to be more pragmatic (improving practice) than theoretical. (Pascarella and Terenzini 1991) Chickering's model is based on Erikson's (1968) theory of human development. He developed Erikson's stages of identity and intimacy between the ages of 17 and 25 years, which he saw as distinct from the stages of adolescence and adulthood. (Walsh and Betz 1985, Van Lingen 1996:44)

Chickering identified seven "vectors of development", which, though not hierarchical, are developmentally sequential (Thomas and Chickering 1984) and have direction and magnitude:

- Developing competence (intellectual, physical and manual, social and interpersonal). Chickering emphasized the importance of developing a sense of competence and confidence;
- Managing emotions (becoming aware of feelings, experiencing, and learning to trust them). Control over appropriate and constructive ways of expressing emotions followed;
- Developing autonomy (emotional independence, instrumental independence and recognition of interdependence);
- Establishing identity (integrating a sense of self). This depends heavily on positive development in previous vectors;

- Freeing interpersonal relationships (development of tolerance and the ability to respond to others in their own right);
- Developing purpose (setting and pursuit of goals, deepening and integration of interests, sense of direction, and vocational, recreational and lifestyle issues);
- Developing integrity (clarification and validation of beliefs). (Van Lingen 1996: 45-51)

At the University of Port Elizabeth, several programs are being conceptualized in an attempt to apply Tinto's and Chickering's models. They comprise: academic skills development; career development; personal/emotional development; social development, peer helpers; and wellness (Witmer and Sweeney 1992). In addition, consideration is being given to the Learning Communities approach (Gabelnick *et al.* 1990), in particular the Freshman Interest Groups (FIGs) approach of the University of Missouri (1998), with which there is a strong link through the Supplemental Instruction (SI) Program. However, despite the urgency of such programs for the personal, educational and social (i.e. holistic) development of students, the needs of South African universities for institutional (political and systemic) transformation have taken priority, and the much needed student development programs remain at an embryonic stage.

Another holistic influence on South African higher education, but focused more narrowly on the development of learning, is based on research into metacognition (Garner 1998) and approaches to studying (Entwistle and Ramsden 1983). Meyer (1998) investigated the influence of students *beliefs about learning* on the way they learn. Meyer conceptualised learning context ("courses") systemically as "a collection of *elements* that interact with one another in order to achieve desirable educational outcomes." (1988:73) The elements of a course are physical objects (teachers, students, books, *etc.*) and mental constructs (course content and assessment). Just as these may change, Meyer argued, so too can perceptions of them change. Perceptions of the *attributes* of elements can be distinguished from perceptions of *relationships* between people and other elements in the system. It is on these perceptions that Meyer focuses his research: "perceptions of *attributes* and *relationships* most commonly held by teachers and perceived by students form the basis of learning context" (1988:74).

Meyer gave students two questionnaires, first an Awareness of Context (AOC) inventory, and second the Approaches to Studying (ATS) inventory used by Entwistle and Ramsden (1983). The AOC had fourteen dimensions: lecturer, fellow students, individual student, course content, tests and examinations, books, handouts, student notes, lecture room, media, university, library, relationships involving lecturers/students, and relationships involving students. The ATS had sixteen subscales reflecting "substantive components of approaches to studying" comprising:

- deep level processing (active questioning in learning),
- surface level processing (preoccupation with memorisation),
- intrinsic motivation (interest in learning for learning's sake),
- extrinsic motivation (interest in courses for the qualifications they offer),
- achievement motivation (competitive and confident),

- globetrotting (over-ready to jump to conclusions),
- improvidence (over-cautious reliance on details),
- comprehension learning (readiness to map out subject area and think divergently),
- operation learning (emphasis on facts and logical analysis),
- relating ideas (relating to other parts of the course),
- use of evidence (relating evidence to conclusions),
- syllabus-boundness (relying on staff to define learning tasks),
- formal teaching methods (lectures and classes more important than individual study),
- clear goals and standards (assessment standards and ends of studying clearly defined),
- workload (heavy pressures to fulfil task requirements),
- fear of failure (pessimism and anxiety about learning outcomes),
- strategic approach (awareness of implications of academic demands made by staff),
- disorganised study methods (unable to work regularly or effectively),
- negative attitudes to studying (lack of interest and application),
- vocational relevance (perceived relevance of courses to careers),
- good teaching (well prepared, helpful, committed teachers),
- freedom in learning (discretion of students to choose and organise own work),
- openness to students (friendly staff attitudes and preparedness to adapt to students' needs),
- social climate (quality of academic and social relationships between students).

(Parsons 1988:104, from Entwistle and Ramsden 1983:180)

Meyer administered the two inventories to large populations of first year students at the University of Cape Town. Using a stepwise regression of the 16 ATS subscales onto the AOC variables, he found that there were meaningful relationships between the two inventories. The results of the experiment confirmed that there is an association between approaches to studying (study orientations) and perception of context which "supports the general principle that teachers in higher education need to raise their students' awareness or consciousness of the teaching and learning context in which they find themselves." (1988:81) This can be facilitated by establishing among students and teachers a common base of perceptions of learning context. The experiment also showed that qualitatively different perceptions of learning context are associated with qualitatively different study orientations:

> ... the vast majority of 'deep' responding students are able to respond to stimuli which 'surface' responding students *do not understand the meaning of*. An overall conclusion is that the increase in the sample size associated with the transition from the meaning to the reproducing orientation is associated with a qualitatively receding locus of perception. The meaning orientation is associated with a rich, holistic perception of learning context that embraces deep, strategic and surface perceptions. All of these perception categories have some explanatory power for the meaning orientation. The reproducing orientation, on the other hand, is associated (if at all) with an impoverished (surface) perception of learning context, the

> qualitative extensions of which are weakly perceived or perhaps not even comprehended by many students. There is thus a conservative basis, from a *teaching* perspective, for helping students to construct wider and more meaningful (deep) perceptions of learning context.
>
> Meyer 1988:81

These findings have been strengthened in subsequent experiments (e.g. Parsons and Meyer 1990, and Meyer, Parsons and Dunne 1990a and b). Meyer described "the contextualised study approach adopted by individual students or groups of students" as "study orchestrations" (Meyer 1991). Directing the hypothesis to "at-risk" students, Meyer, Cliff and Dunne (1994:95) concluded that "while interventions of the type described can assist students to develop their learning potential, they can only do so in carefully managed circumstances that are sensitive to individual students' learning problems and the discipline-specific context in which these occur."

Because of the practical limitations of its specialized statistical techniques, Meyer's work has influenced higher education in South Africa mainly through academic staff development. That is, practitioners have been shown the value of making their students more aware of the wide range of factors in the approaches to studying inventory that seem to affect student performance. Of interest for this paper is the fact that students develop their approaches to studying at school, and many, if not most schools, encourage surface learning for the most part.

"Active learning strategies" (Angelo and Cross 1993) comprise a more recent metacognitive approach to teaching: "By stimulating and shaping students' thinking, the strategies facilitate the transformation of students beliefs about learning from passive-receptive to critical-creative. In addition, the lecturer is stimulated to provide opportunities for students to develop their own viewpoints towards both the subject and the process of teaching-learning." (Blunt 1998:107)

5. Strategies for Facilitating School to University Transition: the Case of UPE

The University of Port Elizabeth (UPE) has taken a broadly based approach to facilitating school to university transition. As with most South African universities, its efforts focus on what can be achieved on campus, in preference to extending its limited resources to the school context.

Off campus, there is a program ("Siyabona") that is offered by a not-for-profit organization (sponsored by the motor industry), which provides Saturday morning workshops in the community to prepare disadvantaged students for university. (Weir 2000) UPE's off-campus focus has been to develop its marketing department to work in the many hundreds of rural and peri-urban, disadvantaged schools spread across the vast province of the Eastern Cape. This is in contrast to many other universities, whose marketing consciously targets urban schools, and particularly the former advantaged ("white") schools, that are able to prepare students effectively for university.

The consequence of the marketing policy is that UPE receives a large number of applicants who are not ready for university, but who have achieved the Matriculation Certificate, which is a state controlled qualification entitling them (subject to admission) to a subsidized place in a university. The certificate is achieved by obtaining a 40% aggregate for a combination of subjects in the final year (Grade 12) of schooling. Although students with the minimum Matriculation are admitted into some humanities programs (e.g. Development Studies, Languages, Education) at UPE, students wanting to register for natural science and commerce degrees have to get more than the minimum. Their grades are weighted, and those who do not make the required level are invited by the UPE Admissions and Placement Assessment Program (APAP) to write a placement test that has been adapted from the standardized "Accuplacer" test of the Educational Testing Service (ETS) and the College Board of the United States. If their results in this test indicate that they may benefit from a foundation year, they are offered a place on a one-year "advancement program". The advancement program does not merely replicate the final year of school, but attempts to develop students' communicative and numerical abilities, in addition to orienting them to the university and their career goals. Research on the effectiveness of this two-year-old program is under way, but already it is clear that students who have completed it need continued support if they are to persist.

Undergraduate and graduate programs are offered by distance learning in Arts, Education and Health Sciences. Although these are new, they have attracted large numbers of students, particularly from professionals working in rural areas, who are seeking to upgrade their qualifications. The development of programs into distance mode has challenged the capacity of teaching staff to the limit, but has had additional benefits: it has improved the quality of contact programs and the viability of departments that may otherwise have faced retrenchments from among their staff.

UPE has extended its Financial Aid Office for under-graduate students with the help of a State sponsored revolving-loan scheme (the National Student Financial Aid Scheme, NSFAS), which provides enough money for all but the poorest student to attend university. Those for whom the NSFAS bursary is insufficient, but whose school grades indicate potential, are found additional funds from the University itself, or from private donors. Additional personnel who speak Xhosa (the dominant African mother tongue of the Eastern Cape) have been employed in the Financial Aid, Student Counseling and Registration offices.

Several modules have been developed to help bridge students into the University. In addition to English for Academic Purposes (first and second language) modules, there are mathematics and statistics modules specially adapted for programs. A "university preparation course" (Snyders 1997) comprising two modules, covers orientation to the institution, assignment writing, oral presentation, problem solving, critical thinking, goal setting, time management, assertiveness, stress management, relationship building, conflict resolution, and social coping skills. The program is presented in small, diverse groups in order to give new students a regular mentor (the group facilitator) and a positive experience of diversity. At the post-graduate level, modules have been

developed to help students develop their understanding of research paradigms beyond positivist to interpretive and critical theory. (Morrow 2000)

An adapted form of Supplemental Instruction (SI), which is a developed approach to peer-facilitated groupwork, has been introduced to support first year students across the University. (Clark 2000) This program provides students with several levels of support, including peer mentoring, peer-group contact (making friends), academic orientation, study skills, remedial support and preparation for assessment. The program was developed through a partnership with the University of Missouri-Kansas City, and UPE is now the national training center and has three accredited trainers. In addition to the SI program, deans ensure that students whose school grades indicate that they will be academically at-risk register for fewer modules and include the available bridging modules in their programs.

Debate has been held around the idea of developing a learning or writing center. Some argue that research indicates that students require one-to-one tutoring on writing that is in the context of their academic programs or disciplines. (Meyer, Cliff and Dunne 1994, Warren 1998: see section 3) On the other hand, while not challenging the research, some argue that students who most need such help are least likely to seek it, and that even if it is made a compulsory requirement for all written assignments, the amount that a tutor can achieve with a disadvantaged student in one hour every few weeks is minimal. Therefore, they argue, what would be more economical, and more likely to create an impact on students than a writing center, would be academic literacy modules integrated with degree programs.

UPE has several hostels housing 1260 students. Attempts to integrate new students include an induction program managed by senior students and the Director of Residences (Mkwananzi 2000), a learning center with access to computers, and recreational facilities. Several research studies have been done of students' needs (Koch 1994, 1998, Van Lingen 1996, Fish 1996), all of which emphasize the alienation that students from disadvantaged communities have felt when entering what used to be a predominantly "white" university for the first time. This problem has gradually subsided as the student intake has become more representative of society. However, despite an affirmative action policy to develop diversity that has been vigorously implemented over the past five years, "whites" still overwhelmingly dominate the academic staff. Apart from the limited numbers of highly qualified people from under-represented groups, an important reason for continued imbalances in universities is the premium paid for such people, and their vertical mobility. The State in particular has "creamed off" large numbers of well qualified academics into highly paid civil service posts.

Institutional restructuring has included modularizing of academic programs to make them more accessible and remove the narrow focus on end-of-year examinations. A system of quality assurance is being developed, which will include student feedback and peer review. Both projects are in keeping with the goals of the South African Qualifications Authority to develop a National Qualifications Framework.

The University's contribution to development in the school system is through teacher certification and upgrading programs. Distance and contact diplomas and degrees to improve the preparedness of under-qualified teachers have attracted more than 10000 students countrywide. In addition, new post-graduate programs in whole school development and school management have been designed to address the need for systemic improvement in schools. The UPE masters degree in school management is offered as a distance program, and attracts students from Zimbabwe, Zambia and Namibia. A certificate to prepare teachers in higher education is also being developed.

6. Discussion and Conclusions

Although students are clearly in urgent need of support in their transition from school to university in South Africa, particularly when they graduate from disadvantaged schools, the above account demonstrates that most support is given to students on campus, shortly before and after initial registration. Very little effort is made (for financial and capacity reasons) to prepare students before they reach university. Whether research in the United States is valid for the South African context remains a moot point, but investigations of Tinto's model of student retention suggest that "background characteristics" are not as important as they may appear (see section 4), and that helping students develop their personal goals, institutional commitments, social life, normative integration, the quality of their efforts, and positive outcomes, are the most effective ways of promoting their retention.

Chickering's approach emphasizes the importance of students developing a sense of their own competences, managing their emotions, developing autonomy, establishing an identity, freeing interpersonal relationships, developing a sense of purpose and developing integrity.

Meyer's research on approaches to studying suggests that a wide range of perceptions, strategies and attitudes to learning influence a student's success, and that as students become metacognitively aware of their learning profiles, they improve their learning behaviours. The research shows that "surface" approaches to learning – which are endemic to most South African schools – tend to be associated with poor performance, whereas "deep" approaches lead to success and persistence.

The University of Port Elizabeth (UPE) is developing all four of the approaches identified by Griesel (1999). These comprise: a placement test; a foundation program for students attempting to gain admission to science and economic sciences; mixed modes of delivery (for education and nursing sciences); and curriculum change (incorporating modules on orientation, study skills, academic literacy, mathematics and statistics). In addition, UPE is developing its administrative and financial aid systems, learner support strategies (SI) and hostel amenities to promote student integration. Needs analyses indicated that African students in hostels felt alienated from the University when there was a "white" majority, but this has changed. An affirmative action/ diversity policy has been implemented to effect the gradual adjustment of the staff profile to better reflect that of South African society.

Despite these developments, students who have attended disadvantaged schools are generally unprepared for university study, and without substantial support are "at-risk". The inequities of the school-university system are illustrated by the differential pass rates of "groups" of students: the highest pass rate is that of "white" females (90%), while the lowest is African males (55%). Reasons for these differences can be found in the theoretical and experimental literature (section 4).

There is little chance that the section of the school system described as "disadvantaged" will emerge from its morass within the next few years. This implies that institutions of higher education provide the best available context for developing effective school to university transition programs. Despite moral support provided in the NCHE Report (1996), academic development programs still receive no direct state funding, and survive on the periphery of mainstream programs in a dependency relationship. Given earmarked funding, such programs could be developed more effectively, ensuring that dedicated staff is hired, facilities such as writing centers and bridging modules are established, and that their services are built into academic programs as requirements, and recognized through the process of quality assurance.

Therefore, the scenario for developing school to university transition in the next ten years is likely to be that South African universities will seek to develop clearly structured, economical projects that directly address the needs of students with respect to the requirements of modularized under-graduate programs. For example:

- improved marketing and communication strategies, to ensure that new students are better informed about what to expect and how to use the university's services;
- more efficient placement and counseling services to ensure that students are appropriately admitted and oriented to programs where they are able to succeed;
- orientation programs to help students manage the transition from disadvantaged, rural schools to advantaged, city universities;
- foundation pre-university programs, mainly of one year duration, to prepare students for under graduate programs that require mathematical, linguistic and discipline-specific expertise;
- modules integrated into mainstream programs to ensure contextualised language, numeracy and learning development;
- better structured and coherent under-graduate programs, with appropriate introductory and concluding (integrative, or "capstone") modules;
- Support strategies such as Supplemental Instruction (SI), additional tutoring, and writing support (both contact and on-line);
- Personal counseling services to help students holistically when they are in crisis;
- Social and academic programs to enrich hostel life on residential campuses;
- Programs for the development and certification of teachers at secondary and tertiary level, which will ensure a continual supply of teachers who have a firm theoretical basis and realistic understanding of what needs to be done to develop disadvantaged schools and under-graduate students.

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